



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,934	11/16/2001	Kazuo Kimura	21994/0033	7901
30678	7590	01/24/2005	EXAMINER	
CONNOLLY BOVE LODGE & HUTZ LLP			YE, LIN	
SUITE 800			ART UNIT	
1990 M STREET NW			PAPER NUMBER	
WASHINGTON, DC 20036-3425			2615	

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/987,934

Applicant(s)

KIMURA, KAZUO

Examiner

Lin Ye

Art Unit

2615

-- The MAILING DATE of this communication

the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/16/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 rejected under 35 U.S.C. 102(b) as being anticipated by Shiraishi Japan Publication 03167534A.

Referring to claim 1, the Shiraishi reference discloses in Figures 1-3, an image sensing apparatus (video camera, see Shiraishi's specification page 2, lines 18-22) for converting an object image into a video signal, comprising (as shown in Figure 1): an image lens (lens 1, see page 8, line 8) for obtaining an object image; an image sensing means (solid-state imaging device 3, see page 8, line 10) having an electrical shutter for capturing the object image to convert it into the video signal (See page 8, lines 10-14); an iris means (light-volume adjusting means 4 as aperture, see page 8, lines 14-15) provided in front of the image sensing means capable of controlling an aperture for the object image to maintain the luminance of the object image on an image sensing surface of the image sensing means (3) coming through the image lens (1) within a predetermined level; a diffraction grating optical low-pass filter (LPF 2, see page 8, lines 8-9) for providing birefringence of the object image (see page 4, lines 1-2), and for limiting a spatial frequency of the object image being obtained by the image lens (see page 3, lines 20-24); and a control means (exposure control section 6,

see page 8, lines 18-22) for preventing the optical low-pass filter from deteriorating functionality of diffraction (see page 5, lines 10-14) by controlling the speed of the electrical shutter to keep the aperture of the iris means at the predetermined value (e.g., as shown in Figure 3, When predetermined exposure value EV is set to 15.5, the image sensing apparatus keeps the aperture value AV in 11 and controls the speed of the electrical shutter, such as increasing speed of the electrical shutter between 1/360 to 1/4000 seconds if the subject is more brighter, see page 10, lines 1-8).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi Japan Publication 03167534A in view of Bolton et al. U.S. Patent 4,739,411.

Referring to claim 3, the Shiraishi reference discloses all subject matter as discussed in respected claim 1, and the Shiraishi reference also shows in Figure 4, a filter (7) to be inserted in the light path of the object image for maintaining the aperture of the iris means (light-volume adjusting means 4) to be more than predetermined level (e.g., the filter 7 suppresses the light intensity, see page 10, lines 14-19). However, the Shiraishi reference does not explicitly state the filter (7) is a Neutral Density filter.

The Bolton reference teaches a video camera including a Neutral Density filter (114) to be inserted in the light path of the object image for maintaining the aperture of the iris means to be more than predetermined level (See Col. 7, lines 26-28 and lines 37-42). The Bolton reference is evidenced that one of ordinary skill in the art at the time of the invention to see more advantages using the Neutral Density filter to block some of the light to the image sensor so that forcing the aperture to open to a larger value with a satisfactory low-pass effect and the depth of field problem can be artificially overcome (see Col.3, lines 33-42 and Col. 7, lines 42-46). For that reason, it would have been obvious one having ordinary skill in the art at the time of the invention was made to see the filter (7) of Shiraishi is a Neutral Density filter maintaining the aperture of the iris means to be more than predetermined level as taught by Bolton.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - a. Ide U.S 6,816,199 discloses an image pickup optical system includes an optical LPF (Low-Pass Filter 14) for reducing moire.
 - b. Tami et al. U.S. 5,416,517 discloses an image pickup device including a low pass filter (27) and an exposure control circuit (14).
 - c. Ise U.S. 5,463,496 discloses an image pickup optical system having an image pickup lens system and an optical low-pass filter constituted by a sole double refraction plate.

Art Unit: 2615

- d. Imai et al. U.S. 4,987,482 discloses an image pickup apparatus capable of enabling the most suitable exposure.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lin Ye whose telephone number is (703) 305-3250. The examiner can normally be reached on Mon-Fri 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lin Ye
Examiner
Art Unit 2615

Lin Ye
January 19, 2005